

## SECTION 1008 -- FLY ASH

### 1008.01 -- Description

Fly ash shall be Class C or F meeting the requirements of ASTM C 311.

### 1008.02 -- Material Characteristics

1. All fly ash will be acceptance tested by the NDR Materials and Tests Division. This includes production plant samples and field samples.

2. Fly ash shall conform to the requirements of Class C or Class F pozzolan as defined in ASTM C 618 except that the maximum loss on ignition for Class F pozzolan shall be 6.0 percent. Additionally, both Class C and Class F pozzolans shall have a maximum allowable free carbon content not to exceed 3.0 percent as determined in accordance with ASTM E 31. Either class of fly ash shall not contain more than 1.5 percent of available alkalis as  $\text{Na}_2\text{O}$ .

3. Fly ash produced in furnace operations utilizing liming materials or soda ash (sodium carbonate) as an additive will not be acceptable.

### 1008.03 -- Procedures

1. Fly ash shall be protected, stored, handled, and sampled in the same manner as specified for portland cement in Sections 1002 and 1004 and the *NDR Materials Sampling Guide*.

2. Each shipment of fly ash sent to the project or ready mix plant shall be accompanied with a certificate of compliance from the supplier. The certificate must include the following information:

- a. Name of the supplier.
  - b. Source of the fly ash.
  - c. Consignee and destination of the shipment.
  - d. Project number to be used on, if available, and date shipped.
  - e. Railroad car number or truck identification number.
  - f. Weight of the shipment.
  - g. Certified test number representing the material being shipped.
  - h. An unrepeatable order number or other identification number so that each shipment is separately identified.
  - i. The NDR specifications that the product is in compliance with.
3. The following signed certification statement, or similar wording, must also be included on the form:

"This is to certify that this shipment of fly ash meets the specification requirements of the Nebraska Department of Roads for Class \_\_\_\_ fly ash."

Signed \_\_\_\_\_

For \_\_\_\_\_

(Supplier)

4. Two copies of the certificate of compliance shall be sent with the shipment for the Engineer. The Engineer will retain one copy for his/her file and send the other copy to the NDR Materials and Tests Division to serve as notification of receipt and identification of the fly ash.

5. Fly ash may be used as soon as it is received, provided it is accompanied by the proper certificate of compliance and the results of previous tests indicate a satisfactory product.

#### **1008.04 -- Acceptance Requirements**

1. a. Approved fly ash will be on the NDR Approved Products List.  
b. Fly ash may be added to the NDR Approved Products List if it is in conformance with the NDR Acceptance Policy for Fly Ash. This information is available upon request from the Department's Concrete Materials Section.
2. a. Should any sample indicate noncompliance with the specifications, use of material from that source based on certification only may be withheld. It will be necessary that the fly ash be held in special silos or bins at the generating plant or some facility under control of the company furnishing the fly ash until such time that test results show compliance.  
b. When it can be shown that continuing production from that generating plant has a high assurance of meeting specifications, material acceptance may once again be based on certification only.
3. a. If tests made on field samples taken by the Department fail to meet any of the specification requirements, all shipments from the supplier will be held until tests have been completed by the NDR Materials and Tests Division and approval for use is issued.  
b. This procedure will be continued until it can reasonably be assured that the fly ash from the supplier will again continue to meet contract requirements.